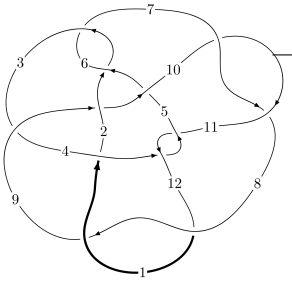
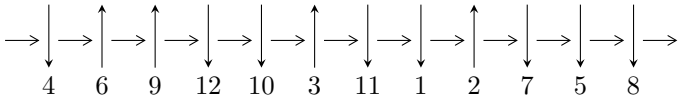
$12a_{0934}$ $(K12a_{0934})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$\underset{c_{12}}{8,12} \to \underset{c_8}{1} \to \underset{c_4}{5,9} \to \underset{c_1}{4} \longrightarrow \underset{c_3}{2} \longrightarrow \underset{c_{11}}{3} \to \underset{c_7}{11} \to \underset{c_6}{7} \longrightarrow \underset{c_{10}}{6} \to 10 \twoheadrightarrow c_2, c_5, c_9$$

Ideals for irreducible components[2]of $X_{\mathbf{par}}$

$$I_1^u = \langle -8.17977 \times 10^{836} u^{142} - 2.61309 \times 10^{836} u^{141} + \cdots + 1.56473 \times 10^{838} b + 1.90810 \times 10^{838},$$
$$1.66586 \times 10^{840} u^{142} - 1.26723 \times 10^{840} u^{141} + \cdots + 2.10456 \times 10^{841} a + 3.71585 \times 10^{842},$$
$$u^{143} - 47u^{141} + \cdots + 364u + 269 \rangle$$
$$I_2^u = \langle -1.71204 \times 10^{17} u^{25} + 3.05492 \times 10^{16} u^{24} + \cdots + 5.91030 \times 10^{16} b - 5.58176 \times 10^{17},$$
$$- 5.21337 \times 10^{18} u^{25} - 1.64739 \times 10^{18} u^{24} + \cdots + 2.95515 \times 10^{17} a - 6.14328 \times 10^{18},\ u^{26} + u^{25} + \cdots + u + 1$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 169 representations.

[1]The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $\boldsymbol{I_1^u = \langle -8.18 \times 10^{836} u^{142} - 2.61 \times 10^{836} u^{141} + \cdots + 1.56 \times 10^{838} b + 1.91 \times 10^{838},\ 1.67 \times 10^{840} u^{142} - 1.27 \times 10^{840} u^{141} + \cdots + 2.10 \times 10^{841} a + 3.72 \times 10^{842},\ u^{143} - 47 u^{141} + \cdots + 364u + 269 \rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.0791551u^{142} + 0.0602135u^{141} + \cdots + 30.8779u - 17.6562 \\ 0.0522761u^{142} + 0.0167000u^{141} + \cdots - 11.6519u - 1.21945 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0268790u^{142} + 0.0769135u^{141} + \cdots + 19.2260u - 18.8757 \\ 0.0522761u^{142} + 0.0167000u^{141} + \cdots - 11.6519u - 1.21945 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0610283u^{142} + 0.124610u^{141} + \cdots - 57.5228u - 42.7584 \\ -0.00749442u^{142} + 0.0569378u^{141} + \cdots - 15.5122u - 13.7115 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0816065u^{142} + 0.0545344u^{141} + \cdots + 38.9646u - 14.3467 \\ 0.0492722u^{142} + 0.0126226u^{141} + \cdots - 8.52288u + 0.271532 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0324903u^{142} + 0.0277336u^{141} + \cdots + 4.34640u + 2.11357 \\ -0.0977073u^{142} - 0.113732u^{141} + \cdots + 81.8388u + 36.8451 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.0416650u^{142} - 0.100566u^{141} + \cdots + 49.8985u + 25.4480 \\ 0.0806253u^{142} - 0.0132788u^{141} + \cdots - 13.2509u + 3.21127 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.117340u^{142} - 0.163859u^{141} + \cdots + 61.4302u + 43.4479 \\ 0.0498635u^{142} + 0.00880346u^{141} + \cdots - 9.16620u - 0.0498885 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0155967u^{142} - 0.0605104u^{141} + \cdots + 40.6021u + 20.4252 \\ 0.0372287u^{142} - 0.0727408u^{141} + \cdots + 14.6857u + 19.7369 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.00649429u^{142} + 0.580777u^{141} + \cdots - 330.566u - 189.922$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$5(5u^{143} - 74u^{142} + \cdots + 39u - 1)$
c_2, c_6	$u^{143} - 6u^{142} + \cdots - 1576u + 172$
c_3	$u^{143} - u^{142} + \cdots - 165495u + 28517$
c_4, c_{11}	$u^{143} + 2u^{142} + \cdots + 5u + 1$
c_5	$u^{143} - 5u^{142} + \cdots + 29545559u + 4359035$
c_7, c_{10}	$5(5u^{143} + 12u^{142} + \cdots - 18368u + 853)$
c_8, c_{12}	$u^{143} - 47u^{141} + \cdots + 364u + 269$
c_9	$5(5u^{143} + 13u^{142} + \cdots + 1.70137 \times 10^7 u + 3351097)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$25(25y^{143}+604y^{142}+\cdots+121y-1)$
c_2, c_6	$y^{143}-76y^{142}+\cdots+959512y-29584$
c_3	$y^{143}+41y^{142}+\cdots-38361226787y-813219289$
c_4, c_{11}	$y^{143}+86y^{142}+\cdots+121y-1$
c_5	$y^{143}+23y^{142}+\cdots+104456910942711y-19001186131225$
c_7, c_{10}	$25(25y^{143}-2914y^{142}+\cdots+1.04124\times10^{8}y-727609)$
c_8, c_{12}	$y^{143}-94y^{142}+\cdots+5651838y-72361$
c_9	25 $\cdot(25y^{143}-1509y^{142}+\cdots+228455902797875y-11229851103409)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.953441 + 0.280184I$ $a = 1.396460 + 0.048949I$ $b = 0.191314 - 0.190861I$	$-2.83635 - 4.15021I$	0
$u = 0.953441 - 0.280184I$ $a = 1.396460 - 0.048949I$ $b = 0.191314 + 0.190861I$	$-2.83635 + 4.15021I$	0
$u = -1.010390 + 0.030646I$ $a = -0.11325 - 2.01286I$ $b = 0.034402 - 0.865725I$	$-0.001877 - 0.442384I$	0
$u = -1.010390 - 0.030646I$ $a = -0.11325 + 2.01286I$ $b = 0.034402 + 0.865725I$	$-0.001877 + 0.442384I$	0
$u = -0.987219 + 0.014942I$ $a = -0.76824 + 2.79757I$ $b = -0.130585 - 1.246220I$	$0.106125 + 0.616101I$	0
$u = -0.987219 - 0.014942I$ $a = -0.76824 - 2.79757I$ $b = -0.130585 + 1.246220I$	$0.106125 - 0.616101I$	0
$u = -0.783799 + 0.643101I$ $a = -1.145450 - 0.671197I$ $b = 0.159109 + 0.679276I$	$-1.32608 - 0.55698I$	0
$u = -0.783799 - 0.643101I$ $a = -1.145450 + 0.671197I$ $b = 0.159109 - 0.679276I$	$-1.32608 + 0.55698I$	0
$u = 0.981212 + 0.039484I$ $a = -0.156321 - 0.796016I$ $b = -0.53247 + 2.38239I$	$2.58358 - 4.22251I$	0
$u = 0.981212 - 0.039484I$ $a = -0.156321 + 0.796016I$ $b = -0.53247 - 2.38239I$	$2.58358 + 4.22251I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.168376 + 1.010290I$ $a = -0.403018 + 1.329770I$ $b = 0.434505 - 1.198880I$	$6.76187 + 3.68604I$	0
$u = 0.168376 - 1.010290I$ $a = -0.403018 - 1.329770I$ $b = 0.434505 + 1.198880I$	$6.76187 - 3.68604I$	0
$u = -1.024100 + 0.082462I$ $a = 0.999925 - 0.454984I$ $b = 0.489112 + 0.884310I$	$-2.25844 + 0.52198I$	0
$u = -1.024100 - 0.082462I$ $a = 0.999925 + 0.454984I$ $b = 0.489112 - 0.884310I$	$-2.25844 - 0.52198I$	0
$u = 0.982228 + 0.303791I$ $a = -0.235058 + 1.247610I$ $b = -0.150528 - 0.716160I$	$0.85063 - 2.71396I$	0
$u = 0.982228 - 0.303791I$ $a = -0.235058 - 1.247610I$ $b = -0.150528 + 0.716160I$	$0.85063 + 2.71396I$	0
$u = 0.962958 + 0.098303I$ $a = 0.267266 + 0.030566I$ $b = 0.77834 + 1.61887I$	$2.51023 + 3.69294I$	0
$u = 0.962958 - 0.098303I$ $a = 0.267266 - 0.030566I$ $b = 0.77834 - 1.61887I$	$2.51023 - 3.69294I$	0
$u = -0.089637 + 1.034830I$ $a = 0.19639 - 1.60103I$ $b = 0.172723 + 1.291120I$	$8.09161 - 7.20861I$	0
$u = -0.089637 - 1.034830I$ $a = 0.19639 + 1.60103I$ $b = 0.172723 - 1.291120I$	$8.09161 + 7.20861I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.110001 + 0.954827I$ $a = -0.26538 + 1.47531I$ $b = -0.097892 - 1.271540I$	$4.82132 - 2.58137I$	0
$u = \quad 0.110001 - 0.954827I$ $a = -0.26538 - 1.47531I$ $b = -0.097892 + 1.271540I$	$4.82132 + 2.58137I$	0
$u = -1.003690 + 0.323417I$ $a = -0.312210 - 0.087098I$ $b = -1.027220 - 0.536386I$	$1.12598 + 2.47967I$	0
$u = -1.003690 - 0.323417I$ $a = -0.312210 + 0.087098I$ $b = -1.027220 + 0.536386I$	$1.12598 - 2.47967I$	0
$u = -0.890332 + 0.317106I$ $a = \quad 0.247103 + 0.210024I$ $b = -0.80279 - 1.54479I$	$2.38525 + 3.10272I$	0
$u = -0.890332 - 0.317106I$ $a = \quad 0.247103 - 0.210024I$ $b = -0.80279 + 1.54479I$	$2.38525 - 3.10272I$	0
$u = -1.063350 + 0.252145I$ $a = -0.41624 - 1.54398I$ $b = -0.410990 + 1.303960I$	$-3.17300 + 3.96230I$	0
$u = -1.063350 - 0.252145I$ $a = -0.41624 + 1.54398I$ $b = -0.410990 - 1.303960I$	$-3.17300 - 3.96230I$	0
$u = -1.025570 + 0.384280I$ $a = -0.651829 - 1.021830I$ $b = -0.98342 + 1.42689I$	$-1.80463 + 5.84988I$	0
$u = -1.025570 - 0.384280I$ $a = -0.651829 + 1.021830I$ $b = -0.98342 - 1.42689I$	$-1.80463 - 5.84988I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.006130 + 0.461398I$ $a = 1.014620 - 0.660352I$ $b = 0.474415 + 1.220100I$	$6.42005 - 5.22402I$	0
$u = 1.006130 - 0.461398I$ $a = 1.014620 + 0.660352I$ $b = 0.474415 - 1.220100I$	$6.42005 + 5.22402I$	0
$u = 1.104300 + 0.136126I$ $a = 1.18282 - 1.18140I$ $b = 0.704634 + 1.081220I$	$-5.06245 - 4.49479I$	0
$u = 1.104300 - 0.136126I$ $a = 1.18282 + 1.18140I$ $b = 0.704634 - 1.081220I$	$-5.06245 + 4.49479I$	0
$u = 0.723528 + 0.513111I$ $a = -1.42116 + 0.78634I$ $b = 0.137355 + 0.053830I$	$0.61991 - 9.62524I$	0
$u = 0.723528 - 0.513111I$ $a = -1.42116 - 0.78634I$ $b = 0.137355 - 0.053830I$	$0.61991 + 9.62524I$	0
$u = -0.332280 + 0.813049I$ $a = -1.24577 - 1.60100I$ $b = 0.323420 + 0.654559I$	$-1.181230 - 0.629478I$	0
$u = -0.332280 - 0.813049I$ $a = -1.24577 + 1.60100I$ $b = 0.323420 - 0.654559I$	$-1.181230 + 0.629478I$	0
$u = -0.220671 + 0.840921I$ $a = -1.01507 - 1.12871I$ $b = 0.313244 + 1.159900I$	$0.48502 - 1.68739I$	0
$u = -0.220671 - 0.840921I$ $a = -1.01507 + 1.12871I$ $b = 0.313244 - 1.159900I$	$0.48502 + 1.68739I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.101010 + 0.295639I$ $a = -1.89392 + 0.97993I$ $b = -0.283702 - 0.936183I$	$1.12905 - 1.16214I$	0
$u = 1.101010 - 0.295639I$ $a = -1.89392 - 0.97993I$ $b = -0.283702 + 0.936183I$	$1.12905 + 1.16214I$	0
$u = -0.963608 + 0.612550I$ $a = 0.73453 + 1.31416I$ $b = 0.83474 - 1.22537I$	$2.77422 + 10.96720I$	0
$u = -0.963608 - 0.612550I$ $a = 0.73453 - 1.31416I$ $b = 0.83474 + 1.22537I$	$2.77422 - 10.96720I$	0
$u = -0.847432$ $a = -0.655806$ $b = -0.337970$	-1.26647	0
$u = -1.152880 + 0.066472I$ $a = 0.632318 + 1.250730I$ $b = 0.481285 - 1.196730I$	$-3.38562 - 0.59244I$	0
$u = -1.152880 - 0.066472I$ $a = 0.632318 - 1.250730I$ $b = 0.481285 + 1.196730I$	$-3.38562 + 0.59244I$	0
$u = -0.705574 + 0.917719I$ $a = 0.649939 + 0.783705I$ $b = -0.512130 - 1.146120I$	$3.72031 - 5.32101I$	0
$u = -0.705574 - 0.917719I$ $a = 0.649939 - 0.783705I$ $b = -0.512130 + 1.146120I$	$3.72031 + 5.32101I$	0
$u = -0.581728 + 0.599275I$ $a = 0.153970 + 0.705721I$ $b = -0.195329 + 0.058974I$	$-1.23695 + 1.89390I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.581728-0.599275I$ $a=\ \ 0.153970-0.705721I$ $b=-0.195329-0.058974I$	$-1.23695-1.89390I$	0
$u=\ \ 0.832800+0.047985I$ $a=-2.20444+1.00568I$ $b=-0.237110-0.562946I$	$2.37529-0.91245I$	0
$u=\ \ 0.832800-0.047985I$ $a=-2.20444-1.00568I$ $b=-0.237110+0.562946I$	$2.37529+0.91245I$	0
$u=\ \ 1.155320+0.169801I$ $a=-1.14673+1.41366I$ $b=-0.579450-1.180900I$	$-2.06102-10.51710I$	0
$u=\ \ 1.155320-0.169801I$ $a=-1.14673-1.41366I$ $b=-0.579450+1.180900I$	$-2.06102+10.51710I$	0
$u=\ \ 1.133480+0.316419I$ $a=\ \ 0.949414-0.757396I$ $b=\ \ 1.044660+0.873227I$	$-3.90278-4.96723I$	0
$u=\ \ 1.133480-0.316419I$ $a=\ \ 0.949414+0.757396I$ $b=\ \ 1.044660-0.873227I$	$-3.90278+4.96723I$	0
$u=-1.118630+0.396045I$ $a=-0.230661-0.577414I$ $b=-0.198672+0.029125I$	$-0.764453-0.954747I$	0
$u=-1.118630-0.396045I$ $a=-0.230661+0.577414I$ $b=-0.198672-0.029125I$	$-0.764453+0.954747I$	0
$u=-0.118570+1.188670I$ $a=\ \ 0.34493-1.37248I$ $b=-0.430334+1.207880I$	$1.22717+7.53373I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.118570-1.188670I$ $a=\ \ 0.34493+1.37248I$ $b=-0.430334-1.207880I$	$1.22717-7.53373I$	0
$u=\ \ 0.677140+0.409760I$ $a=-1.43195+1.61775I$ $b=-0.806800-0.408804I$	$1.207770+0.495852I$	0
$u=\ \ 0.677140-0.409760I$ $a=-1.43195-1.61775I$ $b=-0.806800+0.408804I$	$1.207770-0.495852I$	0
$u=\ \ 0.157111+0.734759I$ $a=-0.1312460+0.0400883I$ $b=\ \ 0.577568-0.342079I$	$3.03390+4.61751I$	0
$u=\ \ 0.157111-0.734759I$ $a=-0.1312460-0.0400883I$ $b=\ \ 0.577568+0.342079I$	$3.03390-4.61751I$	0
$u=\ \ 1.174530+0.474847I$ $a=\ \ 0.966589-0.577097I$ $b=\ \ 0.397074+0.610269I$	$-3.00556-4.48240I$	0
$u=\ \ 1.174530-0.474847I$ $a=\ \ 0.966589+0.577097I$ $b=\ \ 0.397074-0.610269I$	$-3.00556+4.48240I$	0
$u=\ \ 1.146160+0.564297I$ $a=-0.661465+0.725930I$ $b=-0.653511-0.462588I$	$0.31844-9.32512I$	0
$u=\ \ 1.146160-0.564297I$ $a=-0.661465-0.725930I$ $b=-0.653511+0.462588I$	$0.31844+9.32512I$	0
$u=-1.253640+0.264323I$ $a=\ \ 0.0344833-0.0027068I$ $b=\ \ 1.55923+0.24399I$	$-7.06638+5.97890I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.253640-0.264323I$ $a=\ \ 0.0344833+0.0027068I$ $b=\ \ 1.55923-0.24399I$	$-7.06638-5.97890I$	0
$u=\ \ 1.143220+0.644015I$ $a=-0.465776+1.130320I$ $b=-0.246405-1.101650I$	$1.46034-2.65575I$	0
$u=\ \ 1.143220-0.644015I$ $a=-0.465776-1.130320I$ $b=-0.246405+1.101650I$	$1.46034+2.65575I$	0
$u=\ \ 0.513860+0.455627I$ $a=-0.627920+0.129495I$ $b=\ \ 0.832741-0.680431I$	$1.52959-4.07522I$	0
$u=\ \ 0.513860-0.455627I$ $a=-0.627920-0.129495I$ $b=\ \ 0.832741+0.680431I$	$1.52959+4.07522I$	0
$u=-1.287890+0.357625I$ $a=-1.018530-0.249437I$ $b=-0.425248+1.101860I$	$4.46110+2.31741I$	0
$u=-1.287890-0.357625I$ $a=-1.018530+0.249437I$ $b=-0.425248-1.101860I$	$4.46110-2.31741I$	0
$u=-1.299090+0.339174I$ $a=\ \ 0.0071974-0.0201440I$ $b=-1.40845-0.18824I$	$-4.22308+12.77700I$	0
$u=-1.299090-0.339174I$ $a=\ \ 0.0071974+0.0201440I$ $b=-1.40845+0.18824I$	$-4.22308-12.77700I$	0
$u=-0.617090+0.191281I$ $a=\ \ 1.54730+0.50118I$ $b=\ \ 1.098090-0.569613I$	$3.27057-0.27522I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.617090-0.191281I$ $a=\ \ 1.54730-0.50118I$ $b=\ \ 1.098090+0.569613I$	$3.27057+0.27522I$	0
$u=\ \ 1.348760+0.191117I$ $a=\ \ 0.0473985-0.0250200I$ $b=-1.110880+0.147139I$	$-8.27484-1.14930I$	0
$u=\ \ 1.348760-0.191117I$ $a=\ \ 0.0473985+0.0250200I$ $b=-1.110880-0.147139I$	$-8.27484+1.14930I$	0
$u=\ \ 0.401349+0.495221I$ $a=-0.43868-3.17924I$ $b=\ \ 0.118252+1.088580I$	$0.87637-1.28498I$	0
$u=\ \ 0.401349-0.495221I$ $a=-0.43868+3.17924I$ $b=\ \ 0.118252-1.088580I$	$0.87637+1.28498I$	0
$u=-0.039875+1.366560I$ $a=-0.338713+1.335540I$ $b=\ \ 0.430615-1.191370I$	$4.05091+13.22030I$	0
$u=-0.039875-1.366560I$ $a=-0.338713-1.335540I$ $b=\ \ 0.430615+1.191370I$	$4.05091-13.22030I$	0
$u=-1.369400+0.083168I$ $a=\ \ 0.253440-0.220657I$ $b=\ \ 0.870309-0.616922I$	$-6.48596+1.39889I$	0
$u=-1.369400-0.083168I$ $a=\ \ 0.253440+0.220657I$ $b=\ \ 0.870309+0.616922I$	$-6.48596-1.39889I$	0
$u=\ \ 1.263360+0.538364I$ $a=-0.804710+1.037870I$ $b=-0.74435-1.24554I$	$3.33005-9.19163I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.263360 - 0.538364I$ $a = -0.804710 - 1.037870I$ $b = -0.74435 + 1.24554I$	$3.33005 + 9.19163I$	0
$u = 1.266690 + 0.532028I$ $a = -0.408116 + 0.923419I$ $b = -0.231903 - 1.182370I$	$1.47092 - 2.63775I$	0
$u = 1.266690 - 0.532028I$ $a = -0.408116 - 0.923419I$ $b = -0.231903 + 1.182370I$	$1.47092 + 2.63775I$	0
$u = 1.331500 + 0.398460I$ $a = 0.136812 - 0.247068I$ $b = -1.003340 + 0.420358I$	$-6.13084 - 3.78973I$	0
$u = 1.331500 - 0.398460I$ $a = 0.136812 + 0.247068I$ $b = -1.003340 - 0.420358I$	$-6.13084 + 3.78973I$	0
$u = 0.473594 + 0.356276I$ $a = 0.355076 - 0.981933I$ $b = -0.11273 + 1.53753I$	$8.23718 + 1.34496I$	$6.93628 + 6.15710I$
$u = 0.473594 - 0.356276I$ $a = 0.355076 + 0.981933I$ $b = -0.11273 - 1.53753I$	$8.23718 - 1.34496I$	$6.93628 - 6.15710I$
$u = -1.31723 + 0.52281I$ $a = -1.088310 - 0.825424I$ $b = -0.409585 + 1.197380I$	$4.21891 + 12.73810I$	0
$u = -1.31723 - 0.52281I$ $a = -1.088310 + 0.825424I$ $b = -0.409585 - 1.197380I$	$4.21891 - 12.73810I$	0
$u = -1.41997 + 0.02498I$ $a = -0.135495 + 0.303864I$ $b = -0.863982 + 0.315941I$	$-4.69625 - 5.17707I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.41997-0.02498I$ $a=-0.135495-0.303864I$ $b=-0.863982-0.315941I$	$-4.69625+5.17707I$	0
$u=1.40286+0.28425I$ $a=0.0580973-0.0086499I$ $b=0.967363-0.099075I$	$-7.44378-5.30666I$	0
$u=1.40286-0.28425I$ $a=0.0580973+0.0086499I$ $b=0.967363+0.099075I$	$-7.44378+5.30666I$	0
$u=1.39668+0.32006I$ $a=0.006614+0.326654I$ $b=0.891748-0.398388I$	$-6.18038-1.32612I$	0
$u=1.39668-0.32006I$ $a=0.006614-0.326654I$ $b=0.891748+0.398388I$	$-6.18038+1.32612I$	0
$u=-1.36867+0.45750I$ $a=0.887176+0.640077I$ $b=0.437080-1.169470I$	$0.20367+7.63241I$	0
$u=-1.36867-0.45750I$ $a=0.887176-0.640077I$ $b=0.437080+1.169470I$	$0.20367-7.63241I$	0
$u=0.009319+0.553348I$ $a=0.64919-1.54443I$ $b=0.07106+1.42958I$	$8.43857+1.38530I$	$7.30893-2.97936I$
$u=0.009319-0.553348I$ $a=0.64919+1.54443I$ $b=0.07106-1.42958I$	$8.43857-1.38530I$	$7.30893+2.97936I$
$u=-1.36235+0.56627I$ $a=-0.521545-1.281640I$ $b=-0.60537+1.31544I$	$-4.62441+7.22274I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.36235-0.56627I$ $a=-0.521545+1.281640I$ $b=-0.60537-1.31544I$	$-4.62441-7.22274I$	0
$u=1.40718+0.55408I$ $a=0.623404-1.087260I$ $b=0.74733+1.36879I$	$-3.47935-13.62090I$	0
$u=1.40718-0.55408I$ $a=0.623404+1.087260I$ $b=0.74733-1.36879I$	$-3.47935+13.62090I$	0
$u=0.237124+0.412607I$ $a=1.030850-0.811309I$ $b=-0.733952+0.949477I$	$-1.28096+1.96444I$	$5.17797+4.53715I$
$u=0.237124-0.412607I$ $a=1.030850+0.811309I$ $b=-0.733952-0.949477I$	$-1.28096-1.96444I$	$5.17797-4.53715I$
$u=-1.41083+0.60117I$ $a=0.608231+1.271430I$ $b=0.548730-1.290320I$	$-3.77920+10.77930I$	0
$u=-1.41083-0.60117I$ $a=0.608231-1.271430I$ $b=0.548730+1.290320I$	$-3.77920-10.77930I$	0
$u=0.384020+0.252477I$ $a=-2.06556+2.05674I$ $b=0.483990+0.403394I$	$0.54557-9.60702I$	$-4.54721+6.76582I$
$u=0.384020-0.252477I$ $a=-2.06556-2.05674I$ $b=0.483990-0.403394I$	$0.54557+9.60702I$	$-4.54721-6.76582I$
$u=-1.35549+0.74044I$ $a=-0.431996-1.251700I$ $b=-0.661697+1.200460I$	$-3.66668+9.84961I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.35549-0.74044I$ $a=-0.431996+1.251700I$ $b=-0.661697-1.200460I$	$-3.66668-9.84961I$	0
$u=1.42442+0.61562I$ $a=-0.612310+1.166130I$ $b=-0.70865-1.37011I$	$-0.5037-19.9858I$	0
$u=1.42442-0.61562I$ $a=-0.612310-1.166130I$ $b=-0.70865+1.37011I$	$-0.5037+19.9858I$	0
$u=0.000881+0.412430I$ $a=-0.637594-0.103775I$ $b=-0.330304+0.349720I$	$-0.255233+1.078510I$	$-4.16711-5.77889I$
$u=0.000881-0.412430I$ $a=-0.637594+0.103775I$ $b=-0.330304-0.349720I$	$-0.255233-1.078510I$	$-4.16711+5.77889I$
$u=-1.44979+0.68710I$ $a=0.442406+1.132350I$ $b=0.594478-1.170020I$	$-3.76088+6.81017I$	0
$u=-1.44979-0.68710I$ $a=0.442406-1.132350I$ $b=0.594478+1.170020I$	$-3.76088-6.81017I$	0
$u=-0.59473+1.52673I$ $a=0.455106+1.232590I$ $b=-0.246232-0.892389I$	$0.42408-3.50654I$	0
$u=-0.59473-1.52673I$ $a=0.455106-1.232590I$ $b=-0.246232+0.892389I$	$0.42408+3.50654I$	0
$u=1.64858+0.16029I$ $a=0.250608+0.065648I$ $b=0.018889+0.723162I$	$-6.46861-2.66055I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.64858 - 0.16029I$ $a = 0.250608 - 0.065648I$ $b = 0.018889 - 0.723162I$	$-6.46861 + 2.66055I$	0
$u = -0.172229 + 0.252662I$ $a = 1.16750 + 2.56934I$ $b = 0.713752 + 0.140239I$	$3.11265 + 0.43369I$	$1.84930 + 0.76351I$
$u = -0.172229 - 0.252662I$ $a = 1.16750 - 2.56934I$ $b = 0.713752 - 0.140239I$	$3.11265 - 0.43369I$	$1.84930 - 0.76351I$
$u = 0.243927 + 0.177605I$ $a = 2.20717 - 2.46108I$ $b = -0.711630 - 0.359394I$	$-2.73968 - 3.70029I$	$-6.65081 + 6.70575I$
$u = 0.243927 - 0.177605I$ $a = 2.20717 + 2.46108I$ $b = -0.711630 + 0.359394I$	$-2.73968 + 3.70029I$	$-6.65081 - 6.70575I$
$u = -0.126789 + 0.066174I$ $a = -6.00492 + 10.62260I$ $b = -0.146350 + 0.475460I$	$-0.079870 - 0.731459I$	$5.3843 - 24.9637I$
$u = -0.126789 - 0.066174I$ $a = -6.00492 - 10.62260I$ $b = -0.146350 - 0.475460I$	$-0.079870 + 0.731459I$	$5.3843 + 24.9637I$
$u = -0.12883 + 2.02261I$ $a = -0.301777 - 1.101470I$ $b = 0.234082 + 0.971078I$	$-0.42036 - 2.02617I$	0
$u = -0.12883 - 2.02261I$ $a = -0.301777 + 1.101470I$ $b = 0.234082 - 0.971078I$	$-0.42036 + 2.02617I$	0
$u = 2.16376 + 1.36280I$ $a = -0.004660 + 1.139560I$ $b = -0.194181 - 1.141660I$	$0.29837 + 2.19763I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 2.16376 - 1.36280I$ $a = -0.004660 - 1.139560I$ $b = -0.194181 + 1.141660I$	$0.29837 - 2.19763I$	0
$u = -2.36118 + 2.01034I$ $a = 0.172145 + 0.889187I$ $b = -0.068491 - 0.895263I$	$0.09074 + 1.84201I$	0
$u = -2.36118 - 2.01034I$ $a = 0.172145 - 0.889187I$ $b = -0.068491 + 0.895263I$	$0.09074 - 1.84201I$	0

II.

$\boldsymbol{I_2^u = \langle -1.71\times10^{17}u^{25}+3.05\times10^{16}u^{24}+\cdots+5.91\times10^{16}b-5.58\times10^{17},\ -5.21\times10^{18}u^{25}-1.65\times10^{18}u^{24}+\cdots+2.96\times10^{17}a-6.14\times10^{18},\ u^{26}+u^{25}+\cdots+u+1\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 17.6416u^{25} + 5.57464u^{24} + \cdots - 10.1578u + 20.7884 \\ 2.89671u^{25} - 0.516880u^{24} + \cdots + 4.12936u + 9.44412 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 20.5384u^{25} + 5.05776u^{24} + \cdots - 6.02842u + 30.2325 \\ 2.89671u^{25} - 0.516880u^{24} + \cdots + 4.12936u + 9.44412 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2.80278u^{25} - 0.105947u^{24} + \cdots - 2.28007u + 0.880342 \\ -0.482673u^{25} + 0.280749u^{24} + \cdots - 4.36529u - 1.68566 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 13.7352u^{25} + 3.66547u^{24} + \cdots - 4.31763u + 18.7077 \\ 6.57738u^{25} + 0.200737u^{24} + \cdots + 3.81087u + 15.5580 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.158054u^{25} + 1.44984u^{24} + \cdots - 8.37909u + 0.512430 \\ -1.28267u^{25} - 0.319251u^{24} + \cdots + 3.23471u - 0.885657 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -3.72405u^{25} - 3.43627u^{24} + \cdots + 11.2921u - 7.96835 \\ 1.32522u^{25} + 0.901249u^{24} + \cdots - 2.09481u - 0.727603 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 11.4938u^{25} + 0.948449u^{24} + \cdots + 4.33981u + 12.4250 \\ 10.6129u^{25} + 4.91575u^{24} + \cdots - 17.1902u + 8.84370 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -10.7204u^{25} - 4.06184u^{24} + \cdots + 6.12266u - 18.9388 \\ -0.0584470u^{25} - 0.148044u^{24} + \cdots + 4.31504u - 1.60373 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{14700817477270781266}{7387879004773484125}u^{25} - \frac{63312761030831178458}{7387879004773484125}u^{24} + \cdots + \frac{298313499962180300598}{7387879004773484125}u + \frac{108651066144304965144}{7387879004773484125}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$5(5u^{26} - 11u^{25} + \cdots - 6u + 1)$
c_2	$u^{26} + 3u^{25} + \cdots - u + 1$
c_3	$u^{26} + 9u^{24} + \cdots + 21u^2 + 1$
c_4	$u^{26} - u^{25} + \cdots - 4u + 1$
c_5	$u^{26} + 4u^{25} + \cdots + 18u + 5$
c_6	$u^{26} - 3u^{25} + \cdots + u + 1$
c_7	$5(5u^{26} + 13u^{25} + \cdots - 11u + 7)$
c_8	$u^{26} - u^{25} + \cdots - u + 1$
c_9	$5(5u^{26} + 2u^{25} + \cdots + 16u^2 + 1)$
c_{10}	$5(5u^{26} - 13u^{25} + \cdots + 11u + 7)$
c_{11}	$u^{26} + u^{25} + \cdots + 4u + 1$
c_{12}	$u^{26} + u^{25} + \cdots + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$25(25y^{26}+49y^{25}+\cdots+58y+1)$
c_2, c_6	$y^{26}-11y^{25}+\cdots-17y+1$
c_3	$y^{26}+18y^{25}+\cdots+42y+1$
c_4, c_{11}	$y^{26}+23y^{25}+\cdots+2y+1$
c_5	$y^{26}-4y^{25}+\cdots-164y+25$
c_7, c_{10}	$25(25y^{26}-609y^{25}+\cdots-303y+49)$
c_8, c_{12}	$y^{26}-17y^{25}+\cdots-15y+1$
c_9	$25(25y^{26}-104y^{25}+\cdots+32y+1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.689751 + 0.556758I$ $a = 0.16006 - 2.66446I$ $b = 0.162164 + 1.113940I$	$1.374960 - 0.091891I$	$-2.94024 - 2.04577I$
$u = 0.689751 - 0.556758I$ $a = 0.16006 + 2.66446I$ $b = 0.162164 - 1.113940I$	$1.374960 + 0.091891I$	$-2.94024 + 2.04577I$
$u = -1.089060 + 0.300938I$ $a = -1.19283 - 0.82614I$ $b = -0.951459 + 0.789221I$	$-4.00559 + 5.46305I$	$-7.5647 - 14.1732I$
$u = -1.089060 - 0.300938I$ $a = -1.19283 + 0.82614I$ $b = -0.951459 - 0.789221I$	$-4.00559 - 5.46305I$	$-7.5647 + 14.1732I$
$u = -0.985242 + 0.555079I$ $a = 1.11059 + 1.53887I$ $b = 0.621247 - 0.928602I$	$0.59441 + 11.27070I$	$-3.95044 - 11.03530I$
$u = -0.985242 - 0.555079I$ $a = 1.11059 - 1.53887I$ $b = 0.621247 + 0.928602I$	$0.59441 - 11.27070I$	$-3.95044 + 11.03530I$
$u = 0.859024 + 0.107117I$ $a = 0.0318597 - 0.0079537I$ $b = 0.72005 - 2.29004I$	$3.12899 - 4.38552I$	$8.94509 + 10.65325I$
$u = 0.859024 - 0.107117I$ $a = 0.0318597 + 0.0079537I$ $b = 0.72005 + 2.29004I$	$3.12899 + 4.38552I$	$8.94509 - 10.65325I$
$u = -0.784621 + 0.143359I$ $a = 2.18545 + 0.32127I$ $b = 0.474196 - 0.341476I$	$2.16520 - 0.22072I$	$-1.11606 - 4.18782I$
$u = -0.784621 - 0.143359I$ $a = 2.18545 - 0.32127I$ $b = 0.474196 + 0.341476I$	$2.16520 + 0.22072I$	$-1.11606 + 4.18782I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.645300+0.097737I$ $a=-1.51161+1.36735I$ $b=-0.015490+0.564956I$	$-0.406606-0.877914I$	$-7.54465-2.17926I$
$u=-0.645300-0.097737I$ $a=-1.51161-1.36735I$ $b=-0.015490-0.564956I$	$-0.406606+0.877914I$	$-7.54465+2.17926I$
$u=1.385330+0.282236I$ $a=-0.007879-0.229265I$ $b=-0.913835+0.153417I$	$-7.16225-2.94394I$	$-10.12607+2.25574I$
$u=1.385330-0.282236I$ $a=-0.007879+0.229265I$ $b=-0.913835-0.153417I$	$-7.16225+2.94394I$	$-10.12607-2.25574I$
$u=1.50623+0.14188I$ $a=-0.095313-0.439283I$ $b=-0.362803-0.156647I$	$-7.23593-2.70987I$	$-13.21051+3.54938I$
$u=1.50623-0.14188I$ $a=-0.095313+0.439283I$ $b=-0.362803+0.156647I$	$-7.23593+2.70987I$	$-13.21051-3.54938I$
$u=0.464106+0.086116I$ $a=0.543273+1.022800I$ $b=0.02622-1.58295I$	$7.96538+1.57261I$	$-11.3086-8.7070I$
$u=0.464106-0.086116I$ $a=0.543273-1.022800I$ $b=0.02622+1.58295I$	$7.96538-1.57261I$	$-11.3086+8.7070I$
$u=-1.39319+0.69374I$ $a=-0.461084-1.248300I$ $b=-0.581096+1.245540I$	$-4.00617+8.46280I$	$-5.19049-6.55936I$
$u=-1.39319-0.69374I$ $a=-0.461084+1.248300I$ $b=-0.581096-1.245540I$	$-4.00617-8.46280I$	$-5.19049+6.55936I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.155343+0.391791I$ $a=-1.66987-1.39510I$ $b=\ \ 0.577970+0.922080I$	$-1.68551-2.26562I$	$-8.75211+5.54173I$
$u=-0.155343-0.391791I$ $a=-1.66987+1.39510I$ $b=\ \ 0.577970-0.922080I$	$-1.68551+2.26562I$	$-8.75211-5.54173I$
$u=-1.29569+1.10026I$ $a=\ \ 0.337741+0.796682I$ $b=-0.108284-0.871295I$	$0.15379+1.74978I$	$0.+5.63835I$
$u=-1.29569-1.10026I$ $a=\ \ 0.337741-0.796682I$ $b=-0.108284+0.871295I$	$0.15379-1.74978I$	$0.-5.63835I$
$u=\ \ 0.94400+1.46220I$ $a=-0.030392+1.374970I$ $b=-0.148889-1.055210I$	$0.89465-2.84407I$	$-11.26819+0.I$
$u=\ \ 0.94400-1.46220I$ $a=-0.030392-1.374970I$ $b=-0.148889+1.055210I$	$0.89465+2.84407I$	$-11.26819+0.I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$25(5u^{26}-11u^{25}+\cdots-6u+1)(5u^{143}-74u^{142}+\cdots+39u-1)$
c_2	$(u^{26}+3u^{25}+\cdots-u+1)(u^{143}-6u^{142}+\cdots-1576u+172)$
c_3	$(u^{26}+9u^{24}+\cdots+21u^2+1)(u^{143}-u^{142}+\cdots-165495u+28517)$
c_4	$(u^{26}-u^{25}+\cdots-4u+1)(u^{143}+2u^{142}+\cdots+5u+1)$
c_5	$(u^{26}+4u^{25}+\cdots+18u+5)$ $\cdot(u^{143}-5u^{142}+\cdots+29545559u+4359035)$
c_6	$(u^{26}-3u^{25}+\cdots+u+1)(u^{143}-6u^{142}+\cdots-1576u+172)$
c_7	$25(5u^{26}+13u^{25}+\cdots-11u+7)$ $\cdot(5u^{143}+12u^{142}+\cdots-18368u+853)$
c_8	$(u^{26}-u^{25}+\cdots-u+1)(u^{143}-47u^{141}+\cdots+364u+269)$
c_9	$25(5u^{26}+2u^{25}+\cdots+16u^2+1)$ $\cdot(5u^{143}+13u^{142}+\cdots+17013675u+3351097)$
c_{10}	$25(5u^{26}-13u^{25}+\cdots+11u+7)$ $\cdot(5u^{143}+12u^{142}+\cdots-18368u+853)$
c_{11}	$(u^{26}+u^{25}+\cdots+4u+1)(u^{143}+2u^{142}+\cdots+5u+1)$
c_{12}	$(u^{26}+u^{25}+\cdots+u+1)(u^{143}-47u^{141}+\cdots+364u+269)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$625(25y^{26}+49y^{25}+\cdots+58y+1)$ $\cdot(25y^{143}+604y^{142}+\cdots+121y-1)$
c_2, c_6	$(y^{26}-11y^{25}+\cdots-17y+1)(y^{143}-76y^{142}+\cdots+959512y-29584)$
c_3	$(y^{26}+18y^{25}+\cdots+42y+1)$ $\cdot(y^{143}+41y^{142}+\cdots-38361226787y-813219289)$
c_4, c_{11}	$(y^{26}+23y^{25}+\cdots+2y+1)(y^{143}+86y^{142}+\cdots+121y-1)$
c_5	$(y^{26}-4y^{25}+\cdots-164y+25)$ $\cdot(y^{143}+23y^{142}+\cdots+104456910942711y-19001186131225)$
c_7, c_{10}	$625(25y^{26}-609y^{25}+\cdots-303y+49)$ $\cdot(25y^{143}-2914y^{142}+\cdots+104123750y-727609)$
c_8, c_{12}	$(y^{26}-17y^{25}+\cdots-15y+1)$ $\cdot(y^{143}-94y^{142}+\cdots+5651838y-72361)$
c_9	$625(25y^{26}-104y^{25}+\cdots+32y+1)$ $\cdot(25y^{143}-1509y^{142}+\cdots+228455902797875y-11229851103409)$